



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/853,090
Filing Date: May 10, 2001
Applicant: EMOTO
Group Art Unit: Unknown
Examiner: Unknown
Title: SEMICONDUCTOR DEVICE AND METHOD FOR
MANUFACTURING THE SAME
Attorney Docket: 9319S-000208

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11/13/01
K. Brown

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to the examination of this application, please amend it as follows:

IN THE SPECIFICATION

Please replace the following paragraphs of the specification. Applicant includes herewith an Attachment for Specification Amendments showing a marked up version of each replacement paragraph.

Please change the heading TECHNICAL FIELED on page 1 to TECHNICAL
FIELD.

[0024] The base member 17 may preferably be formed from a material that has a small difference in the thermal expansion coefficient with respect to the first and second chips 12 and 13. For example, the base material 17 may be formed from a metal such as an alloy.

Q1

[0025] The base member 17 may be in a frame shape that surrounds the first chip 12, or a column-like member that is disposed at a location where it can support the second chip 13. In order to securely support the second chip 13, an area of the base member 17 to be located may preferably be generally the same as that of the first chip 12 or greater.

[0029] Next, the base member 17 is disposed outside the first chip 12. The base member 17 is affixed to the interposer substrate 11 by an adhesive such as thermosetting resin. Then, the second chip 13 that is larger than the first chip 12 is mounted on the first chip 12. In this case, the second chip 13 is affixed on the first chip 12 by an adhesive or the like. In this instance, portions of the second chip 13 extending outside the first chip 12 are supported by the base member 17.

Q2

[0035] A filler layer 27 that is composed of a thermosetting resin or the like is provided as an undercoat layer between the first chip 22 and the second chip 23. In other words, the filler layer 27 is disposed at a location where it supports a portion of the second chip 23 that extends beyond the first chip 22.

Q3

IN THE CLAIMS

Please amend claims 1-4 and add new claims 5-13 in accordance with the following rewritten claims in clean form. Applicant includes herewith an Attachment for Claim Amendments showing a marked up version of each amended claim.

1. (Amended) A semiconductor device comprising:

a first semiconductor chip mounted on a substrate;

a second semiconductor chip mounted on the first semiconductor chip, the second semiconductor chip being larger than the first semiconductor chip;

a base member disposed between the second semiconductor chip and the

94 substrate; and

a connection member disposed below the substrate,

wherein the second semiconductor chip is supported by the base member.

2. (Amended) A semiconductor device comprising:

a first semiconductor chip mounted on a substrate;

a second semiconductor chip mounted on the first semiconductor chip, the second semiconductor chip being larger than the first semiconductor chip;

a filler layer provided between the second semiconductor chip and the substrate;

and

a connection member disposed below the substrate,
wherein the second semiconductor chip is supported by the filler layer.

3. (Amended) A method for manufacturing a semiconductor device, the
method comprising the steps of:

mounting a first semiconductor chip on a substrate;

mounting a base member outside the first semiconductor chip on the substrate;

and

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cont. mounting a second semiconductor chip that is larger than the first semiconductor
chip on the first semiconductor chip, in a manner that the second semiconductor chip is
supported by the base member.

4. (Amended) A method for manufacturing a semiconductor device, the
method comprising the steps of:

mounting a first semiconductor chip on a substrate,

mounting a second semiconductor chip that is larger than the first semiconductor
chip on the first semiconductor chip; and

providing a filler layer in a manner to support the second semiconductor chip.

95 5. (New) A semiconductor device according to claim 1, wherein said second
semiconductor chip includes edges extending beyond said first semiconductor chip
which are supported by said base member.

6. (New) A semiconductor device according to Claim 1, wherein said base member is disposed in a frame shape surrounding said first semiconductor chip.

7. (New) A semiconductor device according to Claim 1, wherein said base member is a column-like member.

8. (New) A semiconductor device according to Claim 1, wherein said second semiconductor chip is wire-bonded to said substrate.

9. (New) A method of manufacturing a semiconductor device comprising:
disposing a first semiconductor chip on a substrate;
disposing a base member on said substrate;
disposing a second semiconductor chip on said first semiconductor chip; and
wire-bonding said second semiconductor chip to said interposer substrate,
wherein said second semiconductor chip is larger than said first semiconductor chip such that edges of said second semiconductor chip extending beyond said first semiconductor chip are supported by said base member.

10. (New) A method of manufacturing a semiconductor chip according to Claim 9, wherein said base member is disposed in a frame shape surrounding said first semiconductor chip.

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11. (New) A method of manufacturing a semiconductor chip according to Claim 9, wherein said base member is disposed as a column-like member.

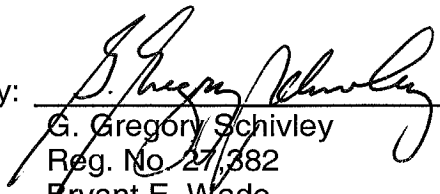
REMARKS

The purpose of this preliminary amendment is to clarify the translation, amend claims and add new claims.

Favorable consideration of this application is respectfully requested.

Respectfully submitted,

Dated: Aug 28, 2001

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